

B3 (i) a first component comprising one or more polyols having an equivalent weight in the range from about 28 to about 3000, optionally one or more diols having an equivalent weight in the range from about 30 to about 4000, and a catalyst; and

(ii) a second component comprising at least 50 weight percent of a primary polyisocyanate having a functionality of at least three, and wherein the first and second components together are solvent free;

wherein the first and second components form a solvent-free admixture having an NCO:OH ratio of about 0.75 to about 1.25.

20/46. (New) An article as recited in claim 19, further comprising an adhesive layer on a second surface of the substrate, wherein the second surface is opposite the first surface of said substrate.

#### REMARKS

Claims 26-36 and 38-46 are pending in the present application. By this Amendment, claims 26 and 28-32 are amended; and new claims 38-46 are added. Applicants respectfully request reconsideration of the present claims in view of the foregoing amendment and the following remarks.

##### I. Prior Art Rejections:

##### Claim Rejections Under 35 U.S.C. § 102(b)

Claims 26-36 are rejected under 35 U.S.C. § 102(b) as being anticipated by European Patent Application Publication No. 0083017A2 by Wegner et al. (hereinafter "Wegner"). This rejection is respectfully traversed.

Applicants' claimed invention, as featured in independent claim 26, is directed to an article comprises, *inter alia*, a substrate, and a polyurethane applied as a layer on a first surface of said substrate, wherein the polyurethane is a reaction product of (i) a first component comprising one or more polyols having an equivalent weight in the range from about 28 to about 3000, optionally one or more diols having an equivalent weight in the range from about 30 to about 4000, and a catalyst; and (ii) a second component comprising at least 50 weight percent of a primary polyisocyanate having a functionality of at least three, wherein the first and second components together are solvent free.

Wegner teaches laminated glass sheets, wherein two sheets of glass are bonded to one another using a polyurethane resin. The polyurethane resins disclosed in

Wegner are formed from a reaction mixture containing less than 20 weight percent of isocyanate-containing materials based on the total weight of the reaction components. (See Wegner, page 5, lines 22-25.) On page 5, lines 3-5, Wegner teaches that up to about 10 mole percent of tri-isocyanates may be used to prepare the polyurethanes. Although it is not clear whether the value of up to 10 mole percent of tri-isocyanates is based on the isocyanate components alone or the total polyurethane reaction components (isocyanates and polyols), in either case, the amount of tri-isocyanates in the reaction mixture is less than about 15 weight percent based on the amount of isocyanate components in the reaction mixture.

Wegner fails to teach or suggest Applicants' claimed invention. In particular, Wegner fails to teach or suggest an article comprising a polyurethane, which is a reaction product of a second component comprising **at least 50 weight percent of a primary polyisocyanate having a functionality of at least three**.

For at least the reasons given above, Applicants respectfully submit that Wegner does not anticipate Applicants' claimed invention embodied in independent claim 26. Since dependent claims 27-36 depend from independent claim 26 and recite additional claim features, Applicants respectfully submit that Wegner does not anticipate Applicants' claimed invention embodied in dependent claims 27-36. Accordingly, Applicants respectfully request withdrawal of this rejection.

## II. New Claims:

New dependent claims 38-40 depend from independent claim 26 and recite the following additional claim features: a portion of the primary aliphatic isocyanate crosslinker comprises monomeric isocyanates (claim 38); the first component and second component form a solvent-free admixture having an NCO:OH ratio of about 0.75 to about 1.25 (claim 39); and the polyurethane contains up to about 20 weight percent of polyether segments (claim 40).

New independent claim 41 is directed to an article comprising, *inter alia*, a substrate, and a polyurethane on a first surface of the substrate, wherein the polyurethane contains primary aliphatic isocyanate crosslinking, and wherein about 25% or more of the total crosslink density is contributed by a polyisocyanate component. New dependent claims 42-44 depend from new independent claim 41 and recite the following additional claim features: the polyurethane is a reaction product of a primary aliphatic isocyanate crosslinker having at least 50 weight percent polyisocyanate, and wherein the first and second components together are solvent free (claim 42); indicia on a portion of the first

surface of the substrate (claim 43); and an adhesive layer on a second surface of the substrate, wherein the second surface is opposite the first surface of said substrate (claim 44).

New independent claim 45 is directed to an article comprising, *inter alia*, a substrate having a first surface; indicia on at least a portion of the first surface of the substrate; and a polyurethane applied as a layer over the indicia and any exposed portions of the first surface of said substrate, wherein the polyurethane is a reaction product of a primary aliphatic isocyanate crosslinker having at least 50 weight percent polyisocyanate, and wherein the reaction components form a solvent-free admixture having an NCO:OH ratio of about 0.75 to about 1.25. New dependent claim 46 depends from new independent claim 45 and recites the following additional claim feature: an adhesive layer on a second surface of the substrate, wherein the second surface is opposite the first surface of said substrate.

Support for new claims 38-46 may be found through out Applicants' specification as indicated below:

Claim 38	Page 8, lines 20-23
Claim 39	Page 9, lines 14-15
Claim 40	Page 10, lines 16-19
Claim 41	Original claim 1 and Page 8, lines 17-20
Claim 42	Page 3, lines 9-28
Claim 43	Page 12, lines 3-8
Claim 44	Page 13, lines 4-6
Claim 45	Original claim 26 and Page 9, lines 10-15
Claim 46	Page 13, lines 4-6

For at least the reasons given above in regard to claims 26-36, Applicants respectfully submit that Wegner does not teach or suggest Applicants' claimed invention embodied in new claims.

### III. Conclusion:

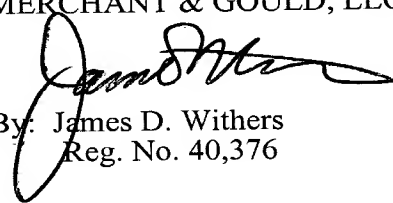
For at least the reasons given above, Applicants submit that claims 26-36 and 38-46 define patentable subject matter. Accordingly, Applicants respectfully request allowance of these claims.

Should the Examiner believe that anything further is necessary to place the application in better condition for allowance, the Examiner is respectfully requested to contact Applicants' representative at the telephone number listed below.

Amendment And Response  
Serial No. 09/710,036

No additional fees are believed due; however, the Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, to Deposit Account No. 13-2725.

Respectfully submitted,  
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3M Docket No.: 53788USA1B.011



Patents

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

HO ET AL.

Serial No.: 09/710,036

Filed: November 10, 2000

For: A FLEXIBLE POLYURETHANE  
MATERIAL

Art Unit: 1711

Examiner: Cooney, J.

MARKED UP VERSIONS OF SPECIFICATION PARAGRAPHS AND CLAIMS  
ACCOMPANYING APPLICANTS' MAY 30, 2001 AMENDMENT AND  
RESPONSE

Applicants provide the following marked up versions of the claims, which were amended in Applicants' May 30, 2001 Amendment and Response filed in response to the January 30, 2001 Office Action. In the amendments below, brackets are used to show where terms were removed from the specification or claims, while underlines are used to show where terms were added to the specification or claims.

In The Claims:

The following amendments were made to the claims:

26. (Amended) An article comprising:

(a) a substrate, and

(b) a polyurethane applied as a layer on a first surface of said substrate, said polyurethane is a reaction product of,

(i) a first component [including] comprising one or more polyols having an equivalent weight in the range from about 28 to about 3000, optionally one or more diols having an equivalent weight in the range from about 30 to about 4000, and a catalyst; and

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(ii) a second component [including a primary aliphatic isocyanate crosslinker] comprising at least 50 weight percent of a primary polyisocyanate having a functionality of at least three, and wherein the first and second components together are solvent free.

28. (Amended) An article as recited in claim 26, wherein an adhesive is applied onto [an] a second surface of said substrate opposite [side] to the first surface of said substrate.

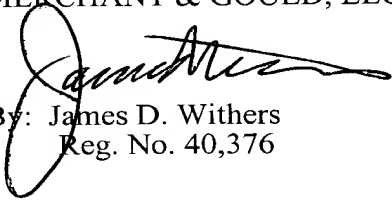
29. (Amended) An article as recited in claim 26, further comprising indicia applied onto [a] the first surface of said substrate and covered by said polyurethane.

30. (Amended) An article as recited in claim [26] 29, wherein said indicia is three dimensional.

31. (Amended) An article as recited in claim [26] 29, wherein said polyurethane layer covers [the entire] all exposed surfaces of the first surface of said substrate and the indicia.

32. (Amended) An article as recited in claim 30, wherein said three dimensional indicia comprises a cured polyurethane body having a mounting surface, a tie layer bonded to the mounting surface [of said cured polyurethane body], and an adhesive body adhered to the tie [later] layer.

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